DISCUSSION OF THE AMENDMENT

Due to the length of the specification herein, Applicants will cite to the paragraph number of the published patent application (PG Pub) of the present application, i.e., US 2007/0183963, when discussing the application description, both in this section and in the Remarks section, *infra*, rather than to page and line of the specification as filed.

The claims have been amended by deleting reference to numerical representations of components, since the claims are not intended to be limited to the particular configurations shown in the Figures.

Claim 1 has been amended by inserting the transitional term --comprising--, and that the gas-permeable plates are located in the fluidized bed --transverse to the flow direction of gas through the fluidized bed--, as supported in the specification at paragraph [0061] and Fig. 1.

Claim 8 has been amended to recite that the reactor additionally comprises a windbox and a gas distributor adapted for introducing hydrogen chloride and oxygen into the fluidized bed. Claim 11 has been amended by changing "the" to --a--. Claims 14 and 15 have been amended to depend on Claim 8. Claim 16 has been amended by inserting process steps.

New Claims 17-19 have been added. Claim 17 is supported by original Claim 14. Claim 18 is supported in the specification at paragraph [0017]. Claim 19 is supported in the specification at paragraph [0020].

No new matter is believed to have been added by the above amendment. Claims 1-19 are now pending in the application.

REMARKS

The rejection of Claims 1, 6, and 13 under 35 U.S.C. § 102(b) as anticipated by U.S. 2,893,851 (Georgian) is respectfully traversed.[1]

Georgian relates to catalytic treatment of gasiform fluids in the presence of powdered solid catalyst wherein the finely divided particles of catalysts are fluidized in an upflow of gasiform fluids (column 1, lines 15-18). In the catalyst, vertical plates are arranged, the plates being mounted on a shaft. The plates are provided with apertures so that the plates are gas-permeable. The shaft is connected to a motor which drives the shaft to rotate. While the shaft is rotating, the plates also being mounted to the shaft, rotate in the fluidized bed. For cooling the fluidized bed, tubes are arranged in the reactor. However, the tubes are not connected to the plates, as can be seen in Figure 3. Since the plates are mounted to be rotatable in the reactor, connection to a heat exchanger is not possible. Nor is it proper to ignore the limitation that the thermal conductivity of the gas-permeable plates is greater than the thermal conductivity of the fluidized bed.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The rejection of Claims 1, 6, 7, 13 and 16 under 35 U.S.C. § 102(b) as anticipated by GB 1 382 991 (Slinko), is respectfully traversed.

Slinko discloses a reactor with a fluidized bed for carrying out chemical reactions involving at least one gaseous reactant, the fluidized bed containing a plurality of filling elements and heat exchange means, the filling elements each consisting of a winding of rigid material (paragraph bridging pages 1 and 2). Contrary to the finding by the Examiner, there is no disclosure therein that the filling elements are connected to the heat exchange means in a thermally conductive manner. Nor, as discussed above, is it proper to ignore the limitation that the thermal conductivity of the gas-permeable plates is greater than the thermal

[1] Georgian has not been made of record. The Examiner is respectfully requested to cite Georgian on a Form PTO-892 in the next Office communication.

conductivity of the fluidized bed. Moreover, the plurality of filling elements would to be arranged in a random manner, rather than transverse to the gas flow direction.

In addition, while not relied on by the Examiner, Slinko compares his inventive filling elements with baffles in Example 1. The baffles are made of stainless steel plates with the thickness of 1 mm, which are perforated mechanically with staggered apertures. The baffles are strung on cooling tubes and fixed by spotwelding. However, Slinko does not disclose that the baffles are located transverse to the flow direction of the gas. Further, spotwelding is not a thermally conductive connection. For heat transfer the connecting spots made by spotwelding are too small. Spotwelding is only suitable for fixing the plate but not for heat conduction. Indeed, due to the thickness of 1 mm, the plates cannot be used for heat conduction. There is not enough material to transport the heat to the cooling tubes.

For all the above reasons, it is respectfully requested that the rejection be withdrawn.

The rejection of Claims 1-3, 5, 6, 8 and 9 under 35 U.S.C. § 102(b) as anticipated by U.S. 4,499,944 (Komakine) is respectfully traversed.

Komakine discloses a reactor having a heat exchanger including a serpentine heat transfer tube embedded in a fluidized bed in the reactor. The tubes may be connected to plates. However, as shown, for example, in Figure 3 therein, the plates are arranged parallel to the flow direction of the gas. There is neither disclosure nor suggestion of plates being arranged transverse to the flow direction of the gas. Nor, as discussed above, is it proper to ignore the limitation that the thermal conductivity of the gas-permeable plates is greater than the thermal conductivity of the fluidized bed.

For all the above reasons, it is respectfully requested that the rejection be withdrawn.

The rejection of Claims 1-9 and 13-16 under 35 U.S.C. § 103(a) as unpatentable over U.S. 5,908,607 (Abekawa et al) in view of Komakine, is respectfully traversed.

The Examiner relies on the disclosure in Abekawa et al of a process for producing chlorine by oxidizing hydrogen chloride with oxygen in the presence of a supported ruthenium compound catalyst, which may be carried out in a number of different reactors including a fluidized bed system. Acknowledging that Abekawa et al does not disclose the specific configuration of a fluidized bed reactor, the Examiner relies on Komakine. But the disclosures and deficiencies of Komakine have been discussed above. Thus, even if the process of Abekawa et al were carried out in the reactor of Komakine, the result would still not be the presently-claimed invention. Accordingly, it is respectfully requested that the rejection be withdrawn.

The rejection of Claims 10-12 under 35 U.S.C. § 103(a) as unpatentable over Abekawa et al in view of Komakine, and further in view of U.S. 3,708,887 (Erisman) is respectfully traversed. The Examiner relies on Erisman for a disclosure of a gas distributor plate provided with gas distributor nozzles for a fluidized bed vessel. The deficiencies in the combination of Abekawa et al and Komakine have been discussed above. Erisman does not remedy these deficiencies. Thus, even if such a gas distributor plate were used in the reactor resulting from the combination of Abekawa et al and Komakine, the result would still not be the presently-claimed invention. Accordingly, it is respectfully requested that the rejection be withdrawn.

The rejection of Claim 16 under 35 U.S.C. § 101 is respectfully traversed. Indeed, the rejection would now appear to be moot in view of the above-discussed amendment, which inserts process steps into the claim. Accordingly, it is respectfully requested that the rejection be withdrawn.

The rejection of Claims 1-16 under 35 U.S.C. § 112, second paragraph, as indefinite, is respectfully traversed. With regard to Claims 1-15, the Examiner finds that "the structure which goes to make up the apparatus has not been clearly and positively specified." In reply,

since the Examiner does not provide any particular facts supporting this conclusion, it is not clear what the Examiner finds indefinite. Nevertheless, it is respectfully submitted that the above-amended claims are definite. With regard to Claim 16, the rejection would appear to now be moot for the same reasons as discussed above with regard to the rejection of Claim 16 under 35 U.S.C. § 101.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

All of the presently-pending claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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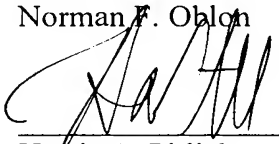

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